

Notice of Allowability

Application No.

10/820,421

Examiner

Lee Fineman

Applicant(s)

CHIU ET AL.

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE and amendment filed 8/15/06.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel R. McClure on 25 September 2006.

The application has been amended as follows:

Amend claim 12 as follows:

12. (Currently amended) The wire grid polarizer according to claim 1, wherein the period is in a range of 10-~~[[250]]~~180nm.

Allowable Subject Matter

2. Claims 1-28 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Claims 1-28 are allowable over the prior art for at least the reason that the prior art fails to teach and/or suggest a transmissive wire grid, full spectrum polarizer "wherein the period is not greater than 180nm" and "wherein the full spectrum polarizer has an extinction ratio of transmittance (T_{TM}/T_{TE}) of about $1E2-3.93E5$ at wavelengths between 470-610nm, where T_{TM} is the transmittance of the TM polarized light and T_{TE} is the transmittance of the TE polarized light" as set forth in the claimed combination.

Zhaoning Yu et al. (*CLEO '99*) disclose in fig. 1 a transmissive wire grid polarizer with double metal layers (see paragraphs 3 and 4, in so far as if only 54% of the TM light is reflected, some of the rest of the light must be transmitted and some must be absorbed), comprising: a transparent substrate (silica); an array of parallel and elongated dielectric protrusions (of PMMA) on the transparent substrate, wherein the dielectric protrusions have a period (190 nm) and a trench is located between adjacent dielectric layers; a first metal layer (of Au and Cr) having a first thickness (75 nm combined thickness of metal) in the trench; and a second metal layer (of Au and Cr) having a second thickness (75 nm combined thickness of metal) and a width (70 nm) on each dielectric protrusion, wherein the first and second metal layers are separated by a vertical distance of 125 nm [200 nm minus the 75 nm thickness of the first metal layer; it is clear from the present disclosure that the “vertical spacing” is measured between the top of the first metal layer and the bottom of the second metal layer], but does not have the period (190 nm) in a range of 10 ~ 180nm and an extinction ratio of transmittance (T_{TM}/T_{TE}) of about $1E2-3.93E5$ at wavelengths between 470-610nm, where T_{TM} is the transmittance of the TM polarized light and T_{TE} is the transmittance of the TE polarized light as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LAF
25 September 2006


MARK A. ROBINSON
PRIMARY EXAMINER